



# **SNS COLLEGE OF TECHNOLOGY**

**Coimbatore-35**

**An Autonomous Institution**

Accredited by NBA – AICTE and Accredited by NAAC – UGC with ‘A+’ Grade

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai



## ***DEPARTMENT OF MECHATRONICS ENGINEERING***

### **19MCB302 – INDUSTRIAL ELECTRONICS & APPLICATIONS**

#### **Case Study on “Failure of Three Phase Induction Motor in Industries”**

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# Construction of 3 Phase Induction Motor



## Construction of Three Phase Induction Motor

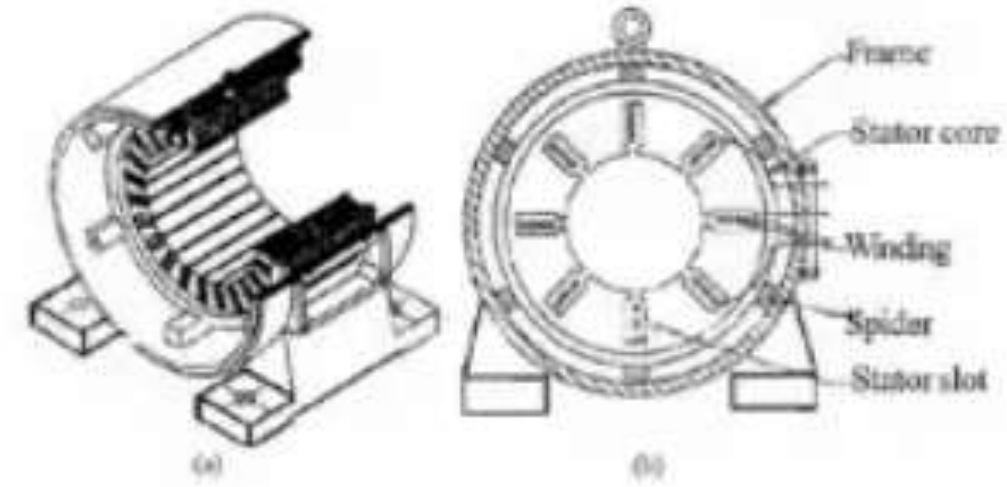
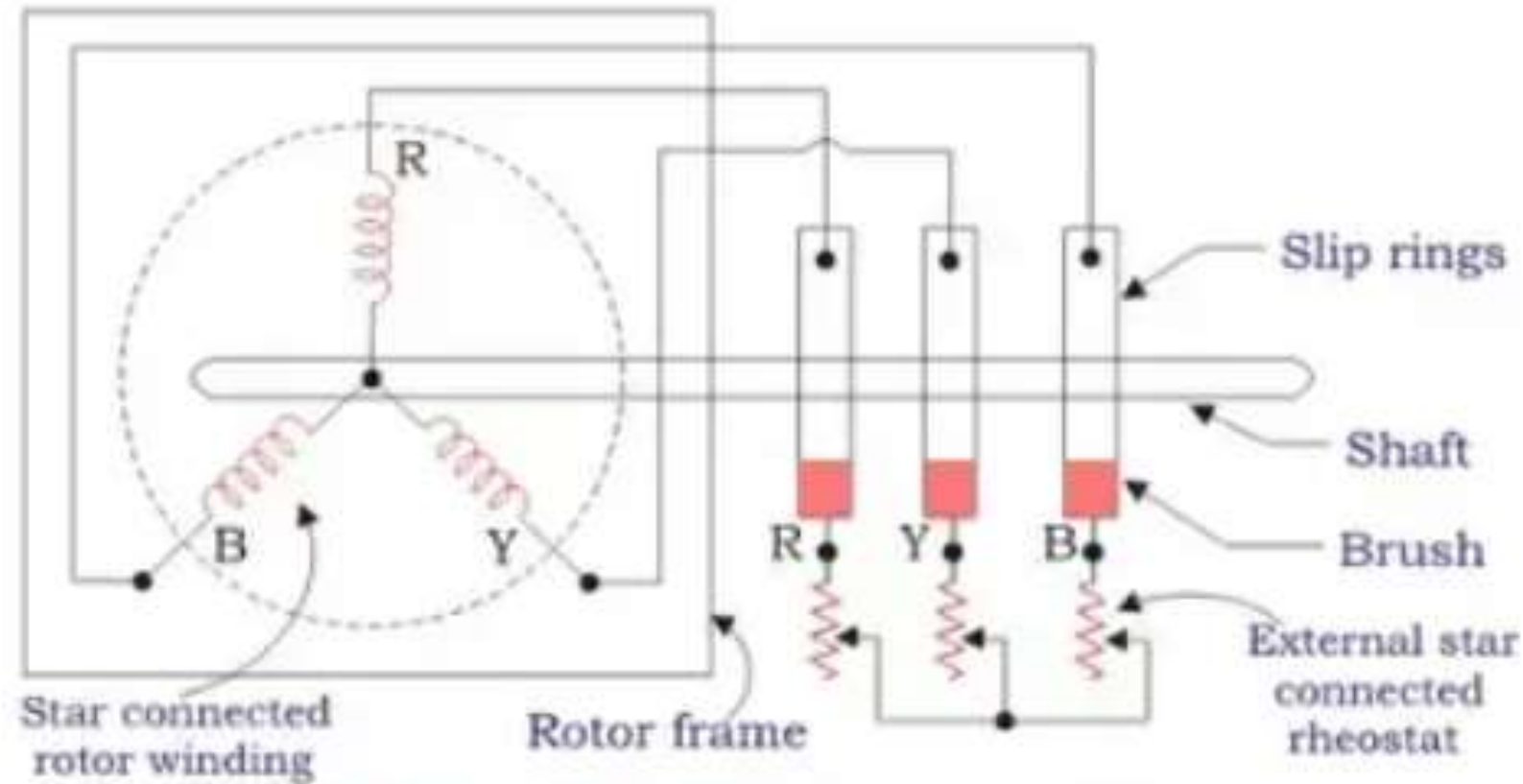


Fig. 11

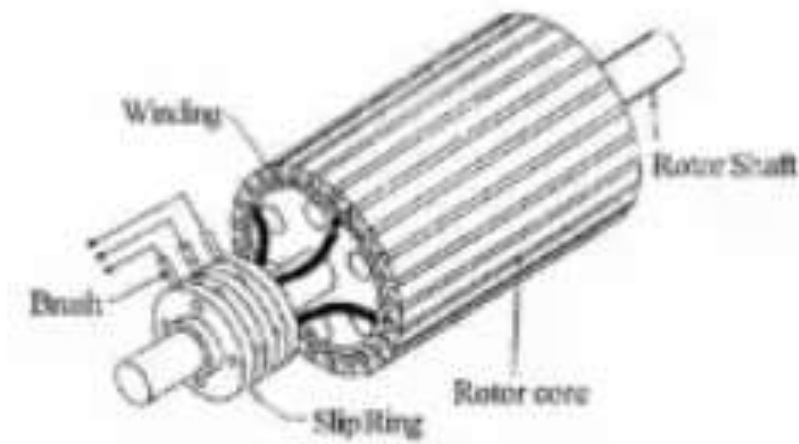


Fig. 12



# Reason for Failure of 3 Phase Induction Motor

1. Electrical Overload
2. Low Resistance
3. Over-Heating
4. Contamination
5. Vibration



# 1. Electrical Overload





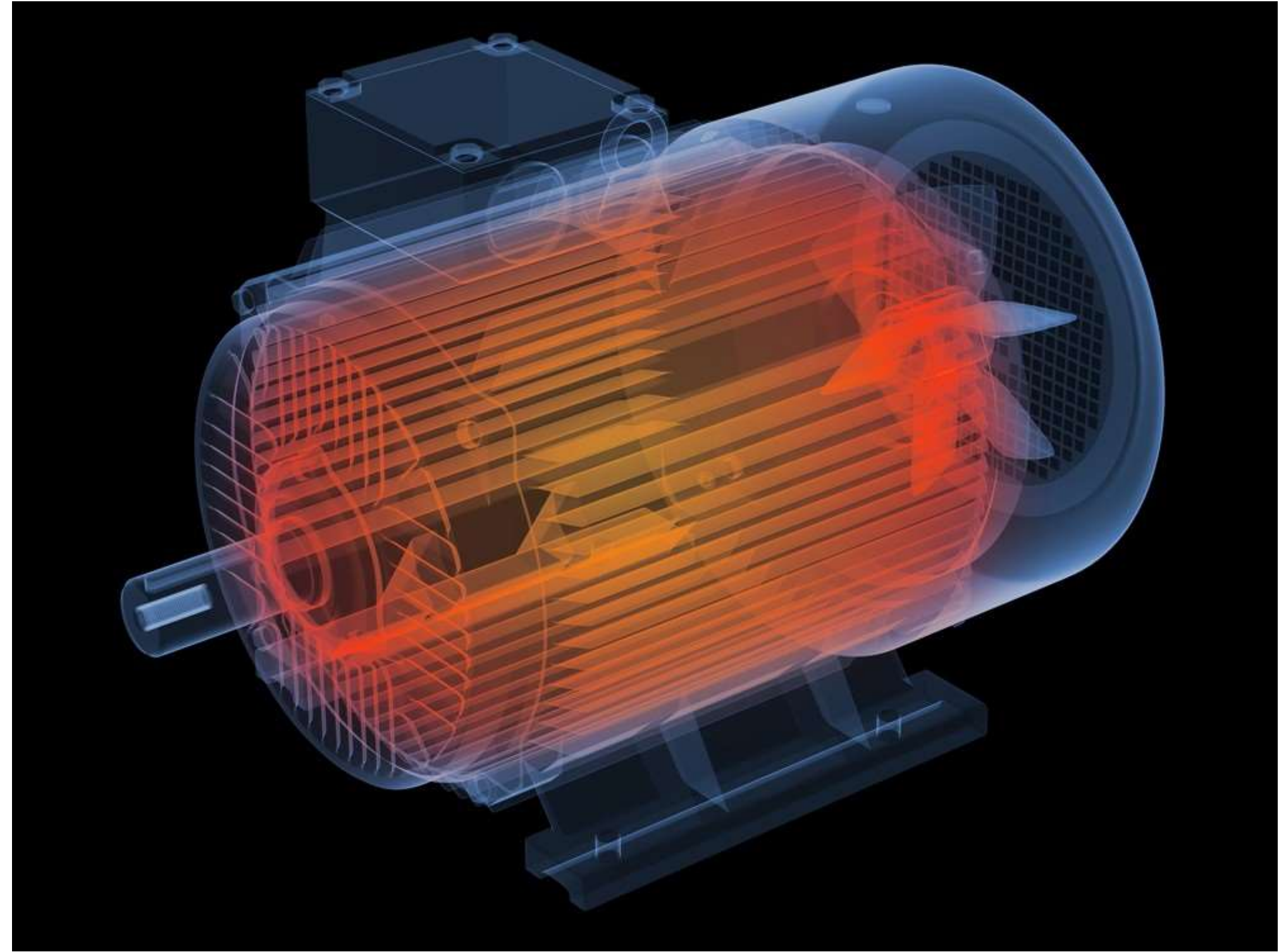
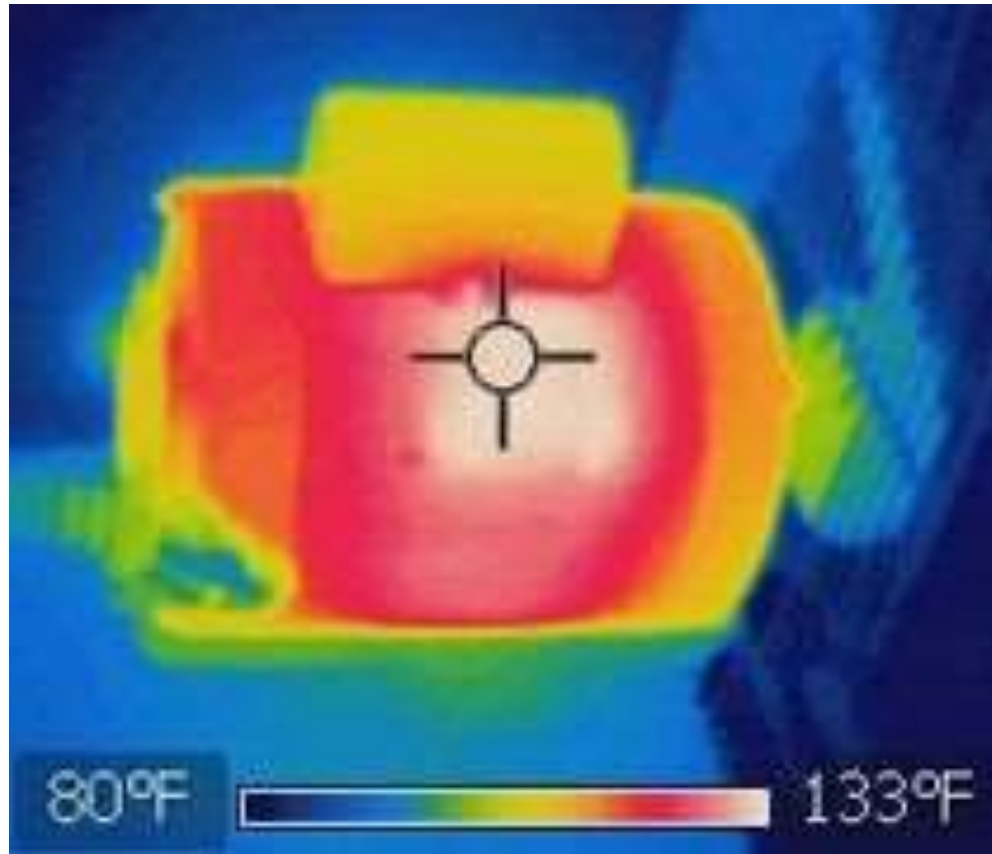
## 2. Low Resistance



**Insulation Failure**



### 3. Over-Heating







## 4. Contamination

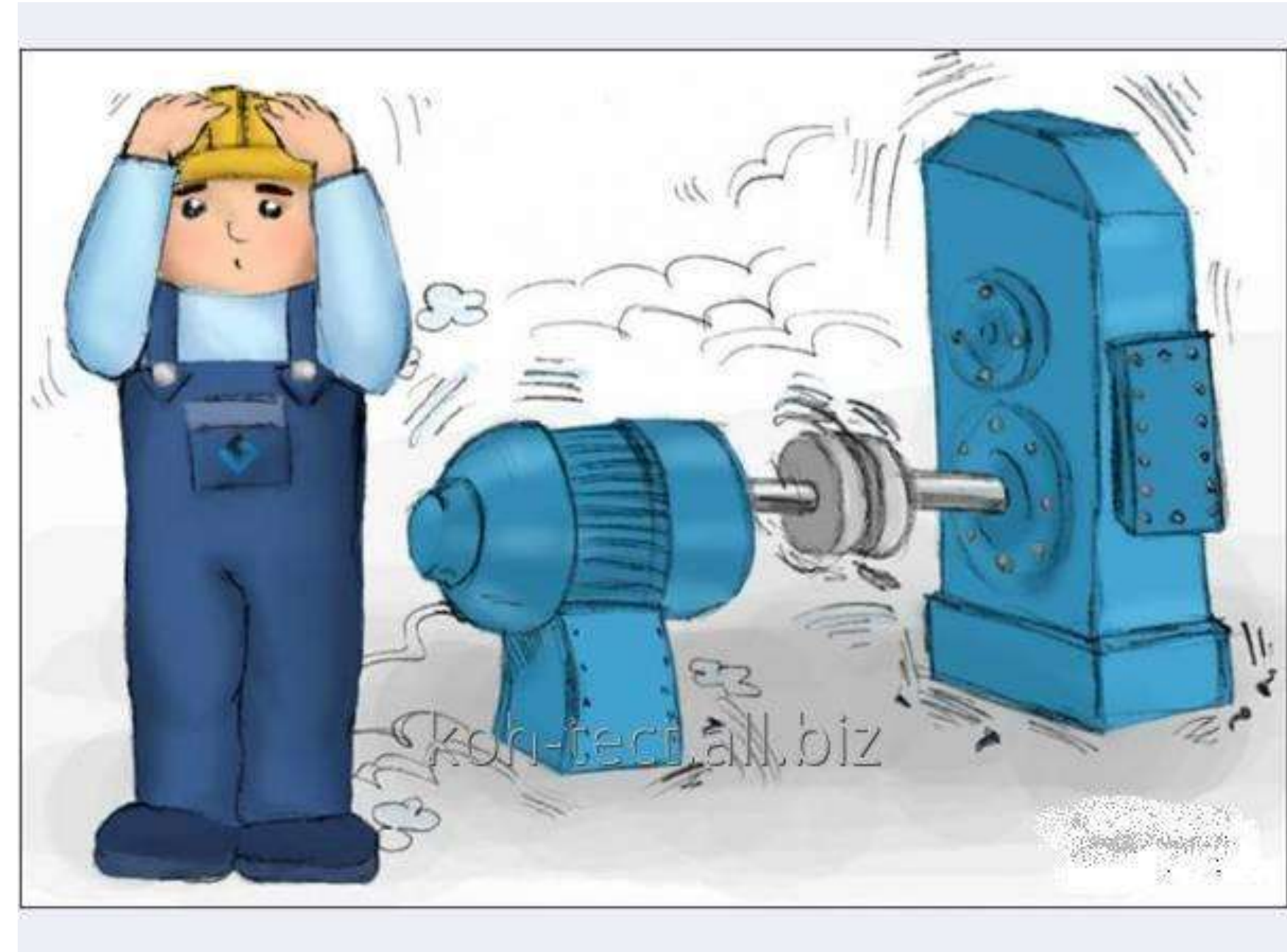


1. Stator windings burned by oil-contamination discharge.





## 5. Vibration





# References



- <https://www.acorn-ind.co.uk/insight/five-causes-of-motor-failure/>
- [https://www.youtube.com/watch?v=am2YTiS\\_gel](https://www.youtube.com/watch?v=am2YTiS_gel)
- <https://vibralign.com/tag/electric-motor-bearing-failure/>
- [https://www.google.com/search?q=failure+of+induction+motor&tbm=isch&ved=2ahUKEwj3w6CbnfnpAhWRm0sFHatIDNUQ2-cCegQIABAA&oq=failure+of+induction+motor&gs\\_lcp=CgNpbWcQAzoECCMQJzoHCAAQsQMQQzoECAAQQzoCCAA6BggAEAcQHjoICAAQBxAFEb46CAgAEAgQBxAeUKp7WI6kAWDYqQFoAHAAeACAAfUBiAH-E5IBBjAuMi4xMJgBAKABAaoBC2d3cy13aXotaW1n&scIent=img&ei=wNvhXvfjJpG3rtoPq8uxqA0&bih=657&biw=1366&rlz=1C1CHBF\\_enIN893IN893#imgic=uoZIVBAgg1VhZM](https://www.google.com/search?q=failure+of+induction+motor&tbm=isch&ved=2ahUKEwj3w6CbnfnpAhWRm0sFHatIDNUQ2-cCegQIABAA&oq=failure+of+induction+motor&gs_lcp=CgNpbWcQAzoECCMQJzoHCAAQsQMQQzoECAAQQzoCCAA6BggAEAcQHjoICAAQBxAFEb46CAgAEAgQBxAeUKp7WI6kAWDYqQFoAHAAeACAAfUBiAH-E5IBBjAuMi4xMJgBAKABAaoBC2d3cy13aXotaW1n&scIent=img&ei=wNvhXvfjJpG3rtoPq8uxqA0&bih=657&biw=1366&rlz=1C1CHBF_enIN893IN893#imgic=uoZIVBAgg1VhZM)
- <https://www.accelix.com/community/preventive-maintenance/typical-causes-of-electric-motor-winding-failures-and-how-to-prevent-them/>



*Thank You*

